Original Research Article

Deaf Machine Theory

Abstract

In this ~~manuscript~~ paper, the author presents an abstract model ~~represents an ideal conceptual model to describe one edge of computation theory. The deaf machine is~~ of a computable machine that is passive to inputs. The model is conceptually a deaf machine that is basically an automaton that ~~has~~ doesnot have any acceptance state.~~,~~The Deaf machine may have one or ~~many~~ morenormal states ~~or~~ and caneven have infinite states (uncountable normal states). The ~~deaf m~~Machine can not recognize any language~~s,~~ either formal ~~or other~~informal.~~So, there is at least one~~The Proposed model is a finite state machine ~~FSM~~ without the accept state~~, –~~ andcannot recognize any language. ~~neither accepts an empty string ℇ~~.

Keywords: Theory of Computation, Computer Science, Deaf Machine, Automata, FSM.

1. Deaf Machine in Computation Theory

The computational theory in computer science examines the possibility of solving problems efficiently through a computer and also examines what the computer can ~~calculate automate~~compute currently~~ and what they can develop to solve problems~~. Computational theory deals with the mathematical models of computing. ~~To produce a systematic~~The study of computation~~, computer scientists form an~~ is aided by abstract mathematical models of computers called model of computation [2, 3].One of these models is the deterministic finite automata DFA that works with finite state machine FSM. This model consists of five tuples~~,~~.~~t~~The first tuple ~~is~~ represents the set of states that is governed by rules of transition from one state to another according to input symbol~~, –~~ with the movement being ~~is done~~ described by transition function.~~a~~As an example the transition function of moving the process from state x to the next state y, when the input symbol is 1 isgiven by δ (x, 1) = y.~~[4, 5]from definition:~~ Let machine M ~~is~~ bea~~d~~Deterministic ~~f~~Finite ~~a~~Automaton ~~then M has a~~described by the 5-tuple, (Q, Σ, δ, q_0, F),~~[6, 7]consisting~~ that consistsof:

- a finite set of states (Q)
- a finite set of input symbols called the alphabet (Σ)
- a transition function ($\delta : Q \times \Sigma \rightarrow Q$)
- an initial or start state ($q_0 \in Q$)
- a set of accept states ($F \subseteq Q$)

~~Let~~ For the machine M shown figure 1, ~~If alphabet of the machine Σ= {0, 1}, then:~~

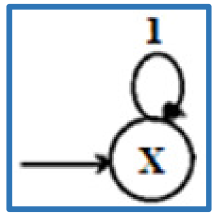

Figure 1- Machine M.

$M = (\{x\}, \{1\}, \delta, x, \{\})$ with

δ:

	1
~~X~~x	X

$\delta(x, 1) = x$,

In this case,the transition function represents the movement from ~~one~~ state x to ~~another except the case of machine M~~ x itself on input 1 . For the deaf machine,~~The important part that is presented here, is~~ the accept states set, ~~it~~ is allowed to be { } or ϕ (there is no~~t~~ accept states) [1].~~This thing is the problemand the solution at the same time, the problem is the machine does not recognize any language neither empty string Ɛ nor the empty language~~.~~As an example~~The deaf machine functioning~~is~~ is analogous to the healthy human ears,~~but the person does not~~ that can hear but cannot recognize ~~any~~ the human language unknown to the person. One example of application of this model is the ~~to~~ halt or break function in programming.

~~He can hear but he cannot understand.From the other side the solution is~~ The similarity lies inthe DFA machinethat ~~has~~ does not have any acceptance state but it~~accomplishes~~ generates a model that represents the deaf machine in computation theory [4, 5].~~Because this abstract model represents an ideal conceptual model to describe one edge of computation theory.The deaf machine is an automaton that has not any acceptance state, figure 1 for example. Deaf machine may have one or many normal states or even have infinite states (uncountable normal states) [8, 9 and 10]. The deaf machine can not recognize any languages, either formal or other.~~

2. Conclusion

A model of a computable machine that is basically deaf to the inputs is presented in the paper. The proposed machine does not have ~~Deaf machine is abstract model represents an ideal conceptual model to describe one edge of computation theory. The deaf machine is an automaton that has~~ does~~not~~ have any acceptance state. ~~Deaf machine may have one or many~~ more~~normal states or~~ can~~even have infinite states (uncountable normal states). The deaf machine can not recognize any languages, either formal or other~~informal~~. This leads to~~

~~conclude that there is at least one~~ Basic idea proposed in the paper is the concept of ~~the~~ finite state machine FSM without acceptance state.~~, cannot recognize any language neither accepts an empty string~~. ~~One example of application of this model is to halt or break function in programming.~~

3. References

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